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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,817	07/28/2003	Hideki Ozawa	1259-03	5866

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EXAMINER

AHMED, SHEEBA

ART UNIT PAPER NUMBER

1773

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/628,817

Applicant(s)

OZAWA ET AL.

Examiner

Sheeba Ahmed

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. Amendments to claims 2-12 have been entered in the above-identified application. New claims 13-21 have been added. **Claims 1-21 are now pending.**

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-6, 8-13, 15-18, 20, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Schlueter, Jr. et al. (US 6,201,945).

Schlueter, Jr. et al. disclose a polyimide film containing electrically conductive doped metal oxide filler dispersed therein and wherein the polyimide film has a surface resistivity of from  $10^4$  to  $10^{12}$  ohm/sq (Column 4, lines 3-7), a volume resistivity of from  $10^4$  to  $10^{11}$  ohm.cm (***the polyimide film is equivalent to the metal oxide and conductive ultrafine particle mixed layer***) (Column 8, lines 50-60) and has a thickness of from about 25 to about 150 microns thick (Column 8, lines 41-45). The film may have an outer layer (***equivalent to the film upon which the metal oxide and conductive ultrafine particle mixed layer is formed***). The film is prepared by using a reaction product of a diamine and a dianhydride dissolved in a solvent, adding and dispersing an appropriate amount of filler, casting the mixture of a surface, removing the

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solvent by evaporation and eating to convert the polyamic acid to polyimide (Column 9, lines 15-30). Preferred doped metal oxides include aluminum doped zinc oxide.

Additional conductive filler may be present in the polyimide layer and examples include indium tin oxide. The desired resistivity can be obtained by varying the concentration of the conductive fillers (Column 12, lines 25-60). With regards to the limitation that the film is antistatic, the Examiner takes the position that such a property limitation is inherently met by the polyimide film taught by Schlueter, Jr. et al. given that the chemical composition of the film taught by Schlueter, Jr. et al. and that of the claimed invention is identical. Furthermore, with regards to the limitations of claim 13 which recite that the conductive ultrafine particles are firmly held in the film by the metal oxide and thereby allow the surface resistance value to be kept within less than 10-fold compared to the initial value, the Examiner takes the position that such a limitation is met by the electrically conductive doped metal oxide filler containing polyimide film taught by Schlueter given that the chemical composition of the film taught by Schlueter, Jr. et al. and that of the claimed invention is identical. All limitations of claims 1, 3-6, 8-13, 15-18, 20, and 21 are either inherent or disclosed in the above reference.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 2, 7, 14, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schlueter, Jr. et al. (US 6,201,945)

Schlueter, Jr. et al. disclose a polyimide film containing electrically conductive doped metal oxide filler dispersed therein and wherein the polyimide film has a surface resistivity of from  $10^4$  to  $10^{12}$  ohm/sq (Column 4, lines 3-7), a volume resistivity of from  $10^4$  to  $10^{11}$  ohm.cm (Column 8, lines 50-60) and has a thickness of from about 25 to about 150 microns thick (Column 8, lines 41-45). The film may have an outer layer. The film is prepared by using a reaction product of a diamine and a dianhydride dissolved in a solvent, adding and dispersing an appropriate amount of filler, casting the mixture of a surface, removing the solvent by evaporation and heating to convert the polyamic acid to polyimide (Column 9, lines 15-30). Preferred doped metal oxides include aluminum doped zinc oxide. Additional conductive filler may be present in the polyimide layer and examples include indium tin oxide. The desired resistivity can be obtained by varying the concentration of the conductive fillers (Column 12, lines 25-60).

Schlueter, Jr. et al. do not teach that the metal oxide and indium tin oxide particle are present in a weight ratio of 0.01 to 0.1 or that the indium tin oxide particle have a particle size of no greater than 0.1 microns.

However, it would have been obvious to one having ordinary skill in the art to optimize the size and amount of the metal oxide and indium tin oxide particles given that Schlueter, Jr. et al. specifically teach that the desired resistivity can be obtained by varying the concentration of the conductive fillers.

**Response to Arguments**

4. Applicant's arguments filed on February 17, 2005 have been fully considered but they are not persuasive. Applicants traverse the rejection of claims 1, 3-6, and 8-12 under 35 U.S.C. 102(b) as being anticipated by Schlueter, Jr. et al. (US 6,201,945) and submit that the antistatic of the instant invention has a structure that is sharply different from the structures disclosed by Schlueter. The Applicants argue that the conductive ultrafine particles of the instant invention are held in the film by the metal oxide, without any adhesive material and that the doped metal oxides taught by Schlueter do not meet the limitations of a metal oxide as recited in the instant application.

The Examiner disagrees. First, Schlueter, Jr. et al. disclose a polyimide film containing electrically conductive doped metal oxide filler and an additional conductive filler, such as indium tin oxide, dispersed therein and wherein the polyimide film has a surface resistivity of from  $10^4$  to  $10^{12}$  ohm/sq and a volume resistivity of from  $10^4$  to  $10^{11}$  ohm.cm (***hence the polyimide film is equivalent to the metal oxide and conductive ultrafine particle mixed layer***). Schlueter further discloses an outer layer (***equivalent to the film upon which the metal oxide and conductive ultrafine particle mixed layer is formed***). Second, the claims of the instant application do not preclude the presence of an adhesive material in the metal oxide layer or preclude the metal oxide from being doped. Hence, Schlueter teaches all elements of claims 1, 3-6, and 8-12 and the above rejection is maintained.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

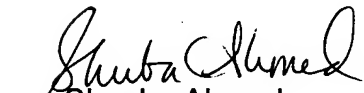
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheeba Ahmed whose telephone number is (571)272-1504. The examiner can normally be reached on Mondays and Thursdays from 9:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571)272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sheeba Ahmed  
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May 9, 2005